Curriculum Vitae

Michelle Chen

Professor, Department of Physics and Engineering
Point Loma Nazarene University, 3900 Lomaland Drive, San Diego, CA 92106
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EDUCATION

University of Pennsylvania

- Ph.D. Materials Science and Engineering, 2008
  - Dissertation: Carbon Nanotube Sensors for Chemical and Biomolecular Detection
  - Advisors: Prof. John E. Fischer and Prof. A. T. Charlie Johnson Jr.

The University of Chicago

- M.S. Physics, 2002
- B.A. Physics, with Honors, 1999
- B.S. Mathematics, 1999

EMPLOYMENT

Professor of Physics, Point Loma Nazarene University, 2017 – present
Associate Professor of Physics, Point Loma Nazarene University, 2013 – 2017
Assistant Professor of Physics, Point Loma Nazarene University, 2010 – 2013
Assistant Professor of Physics, Simmons College, 2008 – 2010
Graduate Student Researcher, University of Pennsylvania, 2002 – 2008
Graduate Student Researcher, The University of Chicago, 1999 – 2002
Undergraduate Student Researcher, The University of Chicago, 1997 – 1999

TEACHING

Point Loma Nazarene University

- Quantum Mechanics
- Electricity, Magnetism, and Waves I
- Electrical Signals and Systems
- Physical Science Lab
- Computational Methods for Engineers and Scientists I
- Engineering Mechanics: Statics and Lab
- Mechanics of Materials and Lab
- General Physics and Lab

- University Physics and Lab
- Analytical Mechanics: Dynamics
- Solid State Physics
- Senior Laboratory and Student Project
- Seminar in Physics

Simmons College
- Introductory Physics II
- Introductory Physics II Lab
- Properties of Materials
- Fundamentals of Physics I
- Fundamentals of Physics I Lab
- Materials Research Methods I
- Quantum Mechanics and Molecular Structure Lab

University of Pennsylvania
- Graduate Student Instructor for Physics of Materials

The University of Chicago
- Graduate Student Instructor for General Physics

STUDENT MENTORING

Fall 2024 - Spring 2025
Honors Thesis Project: Polycyclic Aromatic Hydrocarbons with Machine Learning: DFT IR Spectra Calculated with Case-Specific Scaling Factors (Thesis Committee Member)
- Student: Matthew King (Senior, Chemistry)
- Student: Reese Bos (Senior, Chemistry)

Summer 2024
Analyzing Doxorubicin and Cardioprotective PLGA Nanoparticles on Murine Cardiomyocytes using Machine Learning Modeling to Mitigate Cardiotoxicity
- Collaborator: Dr. Howard H. Chen (Faculty, Tufts University School of Medicine)
- Collaborator: Dr. José Manjarrés (Faculty, Engineering)
- Student: Christina Lee (Sophomore, MICS)
- Student: Jennifer McCreary (Junior, MICS)

Fall 2022 – Spring 2023
Machine Learning for Analyzing PLGA's Cardio-Protective Effect
- Jacob Groh (Senior, Mechanical Engineering Physics)

Fall 2021 – Spring 2022
Machine Learning for Analyzing Biomedical Data

- Levi McClurg (Senior, Physics)
- Caedin Miller (Senior, Physics)

Summer 2020
Lab Design for Mechanics of Materials and University Physics
- Noah Castellon (Senior, Engineering Physics)
- Levi McClurg (Junior, Physics)
- Caedin Miller (Junior, Physics)
- Austin Smith (Graduate, Physics)
- Emma Vahle (Graduate, Physics)

Summer 2019
Graphene Synthesis and Transferring, 3D Printing
- Noah Cole (Senior, Engineering Physics)
- Isaac Hughes (Senior, Engineering Physics)
- Xuesong (Harry) Han (Senior, Engineering Physics)
- Lindsey Plavcan (Junior, Engineering Physics)

Fall 2019 - Spring 2020
Honors Thesis Project: Characterizing A Distributed Pressure Sensor Built from Off-The -Shelf Piezoresistive Polymer (Thesis Committee Member)
- Student: Timothy J. Wiegman (Senior, Engineering Physics)

Summer 2017
Graphene Synthesis, Characterization, and Transferring
- Madison Berger (Senior, Engineering Physics)
- Alex Koch (Junior, Engineering Physics)
- Estifanos Mekuria (Senior, Engineering Physics)

Summer 2016
Graphene Synthesis by Chemical Vapor Deposition
- Michael Lambert (Senior, Engineering Physics)
- Kathrine Quiros (Junior, Engineering Physics)
- Daniel Solar (Junior, Engineering Physics)

Summer 2013
Graphene Synthesis and the Design and Construction of Microscope Incubator
- Melanie Broman (Junior, Engineering Physics)
- Claire Mathews (Junior, Engineering Physics)
- Eric McPherson (Senior, Engineering Physics)

Fall 2012 - Spring 2013
Honors Thesis Project: Assessing the Reliability of Quantitative Imaging of Samarium-153
- Student: Hannah Ponek (Senior, Engineering Physics)

Summer 2012
Graphene Synthesis and the Biocompatibility with 9-L Mouse Brain Tumor Cells
- Andrew Schalin (Senior, Engineering Physics)
- Josh Wathen (Senior, Physics – Biology)
- Ian Chapman (Sophomore, High School)

Summer 2011
Graphene Synthesis by Chemical Vapor Deposition & Effect of Thiophene and Pyridine on Partial Oxidation of Ethanol and Methanol Over Fe2(MoO4)3 Catalyst
- Bradly Baer (Junior, Chemistry)
- Christopher Evans (Senior, Chemistry – Biology)
- Hannah Ponek (Junior, Physics)

Spring 2011
Honors Thesis: Synthesis of Large Area Graphene Films by Chemical Vapor Deposition
- Nicole Kawamoto (Senior, Physics – Chemistry)

Fall 2010
Honors Thesis: Synthesis of Large Area Graphene Films by Chemical Vapor Deposition
- Nicole Kawamoto (Senior, Physics)

Summer 2010
Synthesis of Large Area Graphene Films by Chemical Vapor Deposition
- Nicole Kawamoto (Senior, Physics – Chemistry)

Fall 2009 - Spring 2010
Synthesis of Graphene and Carbon Nanotubes by Chemical Vapor Deposition & Cytotoxicity of Carbon Nanotubes in Chinese Hamster Ovarian Cells
- Asma Ahmed (Junior, Chemistry)
- Melanie Black (Sophomore, Chemistry)
- Nicole Kawamoto (Junior, Physics – Chemistry)
- Melissa Lever (Freshman, Chemistry – Physics)
- Jessica Lucas (Sophomore, Biology)
- Armie Pagala (Junior, Chemistry)
- Tram Pham (Junior, Chemistry)
- Sara Stankiewicz (Sophomore, Chemistry)

Summer 2009
Synthesis of Large Area Graphene Films by Chemical Vapor Deposition
- Nicole Kawamoto (Junior, Physics – Chemistry)

Spring 2009
Synthesis of Carbon Nanotubes by Chemical Vapor Deposition
- Nazifa Abdul-Raul (Sophomore, Physics – Chemistry)
- Rachel Brady (Junior, Biology)

- Stephanie Intriago (Sophomore, Chemistry)
- Nicole Kawamoto (Sophomore, Physics – Chemistry)
- Jessica Lucas (Freshman, Chemistry – Biology)
- Tram Pham (Sophomore, Chemistry)
- Bib Yang (Sophomore, Biology)

PEER-REVIEWED PUBLICATIONS

(***** indicates undergraduate student co-authors under my mentorship)

1. C. Lee, J. McCreary, H.H. Chen, M. Chen, and Jose Manjarres, "PLGA Nanoparticles on Murine Cardiomyocytes using Machine Learning Modeling to Mitigate Cardiotoxicity," *2024 IEEE International Conference on Bioinformatics and Biomedicine (BIBM)*, Lisbon, Portugal, 2024, pp. 4950-4957, doi: 10.1109/BIBM62325.2024.10822703.
2. Y. Liu, **M. Chen**, M.L. Wang, and M.R. Dokmeci, "RNA Functionalized Single-walled Carbon Nanotube Devices for Chemical Sensing," *Applied Physics Letters* 103, 103103 (2013).
3. Howard. H. Chen, Bradly Baer*****, Christopher S. Evans*****, Hannah M. Ponek*****, and **Michelle Chen**, "Effect of Single-walled Carbon Nanotubes Entry into Mammalian Cells," *Materials Research Society Symposium Proceeding*, 1273608 (2012).
4. Yu Liu, **Michelle Chen**, Marjory Mohebbi, Ming L. Wang, and Mehmet R. Dokmeci, "The Effect of Sequence Length on Gas Sensing Characteristics of DNA Decorated SWNTs," *Sensors and Actuators B: Chemical (2012)* Submitted.
5. **Michelle Chen**, Sujit S. Datta, Samuel M. Khamis, John E. Fischer, and Alan T. Johnson, "RNA-functionalized Carbon Nanotubes for Chemical Sensing," *Journal of Experimental Nanoscience* (2011) Submitted.
6. C.-L. Chen, V. Agarwal, S. Sonkusale, **M. Chen**, and M.R. Dokmeci, "Heterogeneous Integration of Carbon Nanotubes on Complementary Metal Oxide Semiconductor Circuitry and Sensing Applications," ***Invited Book Chapter*** in *MEMS and Nanotechnologies: From Science-to-Electronic Systems*, Bentham Science Publishers (2011).
7. C.-L. Chen, C.-F. Yang, V. Agarwal, S. Sonkusale, A. Busnaina, **M. Chen**, and M.R. Dokmeci, "DNA-decorated Carbon-nanotube-based Chemical Sensors on Complementary Metal Oxide Semiconductor Circuitry," *Nanotechnology* 21, 095504 (2010).
8. **M. Chen**, S.M. Khamis, S.S. Datta, Y.-B. Zhang, M. Kanungo, A.J. Ho, P. Freimuth, D. van der Lelie, A.T. Johnson, J.A. Misewich, and S.S. Wong, "Detection of Viral Proteins using Human Receptor Functionalized Carbon Nanotubes," *Materials Research Society Symposium Proceeding* 1065-QQ04-05 (2008).
9. P. Uttayarat, **M. Chen**, M. Li, F. Allen, P. I. Lelkes, and R. J. Composto, "The Effect of Mechanical Forces on Endothelial Cell Migration," *AJP Heart and Circulatory Physiology* 294: H1027-H1035 (2008).
10. S.M. Khamis, **M. Chen**, and A.T. Johnson, "Gas Phase Electronic Sensing using Single-walled Carbon Nanotube Biopolymer Hybrids," *Materials Research Society Symposium Proceeding* 1057-II-16-04 (2008).

11. **M. Chen**, S. Khamis, R. Johnson, C. Staii, M.L. Klein, J.E. Fischer, and A.T. Johnson, "Investigation of DNA-decorated Carbon Nanotube Chemical Sensors," *Materials Research Society Symposium Proceeding* 963, 0963-Q21-04 (2007).
12. Y.-B. Zhang, M. Kanungo, A.J. Ho, P. Freimuth, D. van der Lelie, **M. Chen**, S.M. Khamis, S.A. Datta, A.T. Charlie Johnson, J.A. Misewich, and S.S. Wong, "Functionalized Carbon Nanotubes for Detecting Viral Proteins," *Nano Letters* 7, 3086 (2007).
13. A.T. Johnson, C. Staii, **M. Chen**, S. Khamis, R. Johnson, M.L. Klein, and A. Gelperin, "DNA-decorated Carbon Nanotubes for Chemical Sensing," *Semiconductor Science and Technology* 21, S17-S21 (2006).
14. A.T. Johnson, C. Staii, **M. Chen**, S. Khamis, R. Johnson, M.L. Klein, and A. Gelperin, "DNA-decorated Carbon Nanotubes for Chemical Sensing," *Physica Status Solidi (B)* 243, 3252 (2006).
15. C. Staii, **M. Chen**, A. Gelperin, and A. T. Johnson, "DNA-decorated Carbon Nanotubes for Chemical Sensing," *Nano Letters* 5, 1774 (2005).
16. C. Staii, **M. Chen**, A. Gelperin, and A. T. Johnson, "Single Stranded DNA-decorated Carbon Nanotube Transistors for Chemical Sensing," *Materials Research Society Symposium Proceeding* 900E, 0900-O08-08 (2005).
17. **M. Chen**, C. Guthy, J. Vavro, J.E. Fischer, S. Badaire, C. Zakri, P. Poulin, V. Pichot, and P. Launois, "Characterization of Single-walled Carbon Nanotube Gibers and Correlation with Stretch Alignment," *Materials Research Society Symposium Proceeding* 858E, HH4.11 (2004).
18. S. Badaire, C. Zakri, P. Poulin, V. Pichot, P. Launois, J. Vavro, C, Guthy, **M. Chen**, and J.E. Fischer, "Correlation of Properties with Preferred Orientation in Extruded and Stretch-aligned Single Wall Carbon Nanotubes," *Journal of Applied Physics* 96, 7509 (2004).
19. **M. Chen**, W. Kang, and W. Wegscheider, "Metamorphosis of the Quantum Hall Ferromagnet at $\nu = 2/5$," *Physical Review Letters* 91, 116804 (2003).
20. **M. Chen**, B. Zhang, M. Rohde, and W. Kang, "Effect of Large in-plane Magnetic Field on the Negative Hall States of $(TMTSF)_2ClO_4$," *Synthetic Metals* 120, 981 (2001).

NON PEER-REVIEWED PUBLICATIONS

(***** indicates undergraduate student co-authors under my mentorship)

1. Howard H. Chen, Jessica A. Lucas*****, and **Michelle Chen**, "Effect of Carbon Nanotubes on Chinese Hamster Ovarian Cells," *Nanotechnology 2011: Bio Sensors, Instruments, Medical, Environment and Energy*, vol. 1, 513-516 (2011).
2. Yu Liu, **Michelle Chen**, Ming L. Wang, and Mehmet R. Dokmeci, "Sensing Characteristics of RNA Oligomer Coated SWNT Gas Sensors," *Solid-State Sensors, Actuators and Microsystems*, 136-139 (2011).
3. Yu Liu, **Michelle Chen**, Ming L. Wang, and Mehmet R. Dokmeci, "The Effect of Sequence Length on DNA Decorated CNT Gas Sensors," *Solid-State Sensors, Actuators and Microsystems*, 2156-2159 (2011).
4. C.-L. Chen, V. Agarwar, S. Sonkusale, **M. Chen**, and M.R. Dokmeci, "Ss-DNA Decorated SWNT Gas Sensors Integrated on CMOS Circuitry," *Solid-State Sensors, Actuators and Microsystems*, 1477-1480 (2010).

5. **Michelle Chen**, Sujit S. Datta, Samuel M. Khamis, John E. Fischer, and Alan T. Johnson, "RNA Functionalized Carbon Nanotube for Chemical Sensing," *Nanotech 2010* 21, 191-194 (2010).
6. C.-L. Chen, C.-F. Yang, V. Agarwal, S. Sonkusale, A. Busnaina, **M. Chen**, and M.R. Dokmeci, "Ss-DNA-decorated Single-walled Carbon Nanotubes Integrated on CMOS Circuitry for High Sensitivity Gas Sensing," *Solid-State Sensors, Actuators and Microsystemss* 21, 1477 (2009).

PATENTS

"SS-DNA-Decorated Single-Walled Carbon Nanotubes Integrated on CMOS Circuitry for High Sensitivity Gas Sensing," C.-L. Chen, C.-F. Yang, V. Agarwal, S. Sonkusale, A. Busnaina, M. Chen, and M.R. Dokmeci, filed on August 2009.

"Functionalized Carbon Nanotubes for Detection of Viral Proteins," M. Chen, S.M. Khamis, and A. T. Johnson, Penn CTT Docket No. T4495.

GRANTS

Principal Investigator, Jonathan F. Reichert Foundation, ALPhA Immersion Equipment Grant, Michelle Chen. $4,788 Awarded (2020).

Principal Investigator, Thermo Fisher Scientific Attune NxT Acoustic Cytometry Grant, "Multiplexed Analysis of Single-walled Carbon Nanotubes in Biological Systems," Michelle Chen. $199,480 Submitted (2015).

Participant, Vocation Grant, Point Loma Nazarene University. $2,000 Awarded (2014).

Principal Investigator, Research Corporation for Science Advancement, Single Investigator Cottrell College Science Award, "Electrical Detection of DNA-RNA Hybridization on Graphene", Michelle Chen. $45,000 Submitted (2010).

Principal Investigator, President Fund for Faculty Excellence, Simmons College, "Effect of Carbon Nanotubes on Mammalian Cells," Michelle Chen. $8,800 Awarded (2010).

Subcontractor, National Science Foundation #0955024, "Nanoelectrochemical Systems on Silicon," with Sameer Sonkusale, $400,000 Awarded (2010).

Faculty Investigator / Subcontractor, National Science Foundation Grant, "Graphene Adhesion and Nano-devices," with Kai-Tak Wan and Mehmet Dokmeci, *pending* (2010).

Subcontractor, REU Supplement, National Science Foundation Grant DMR 0805136, "Graphene- and Metal-based Atomically Precise Nanoelectronics," with A.T. Charlie Johnson and Douglas Strachan, $4,000 Awarded (2009), and $4,500 Awarded (2010).

Faculty Recipient, Development and Travel Grant, Nanoscale Informal Science Education (NISE Network), $3,000 Awarded (2009).

Principal Investigator, Faculty Start-up Award, The Camille & Henry Dreyfus Foundation, "Probing DNA-Carbon Nanotube Interactions: Toward Understanding of Functionalized Carbon Nanotube Chemical Sensors," M. Chen, 30,000 Submitted (2008).

INVITED TALKS & WORKSHOP

1. XSEDE HPC Workshop: Big Data and Machine Learning, with Pittsburgh Supercomputing Center, Online, Oct. 5 – 6, 2022.
2. NSF Mathematical Science Summer Research Symposium, Virtual, Aug. 25 – 26, 2022.
3. ALPhA Advanced Laboratory Immersions: Experimenting with Graphene, University of the South, Sewanee, TN, Jun. 12 – 14, 2019.
4. **Michelle Chen,** "Carbon Nanotubes: Synthesis and Applications," Faculty Scholarship Day at Point Loma Nazarene University, San Diego, CA, Aug. 21, 2018.
5. **Michelle Chen**, "Carbon Nanomaterials, Synthesis and Interface with Biology," Society of Physics Students Seminar at Point Loma Nazarene University, San Diego, CA, Apr. 13, 2018.
6. **Michelle Chen**, "Functionalized Carbon Nanotubes as Chemical and Biological Sensors," at Materials Science Seminar, University of New Hampshire, Durham, NH, Dec. 1, 2010.
7. **Michelle Chen**, "Carbon Nanotube Chemical and Biological Sensors," at Point Loma Nazarene University, Mar. 26, 2010.
8. NSF Workshop on Sensing and Prognostics for Scalability of Nanomanufacturing, Northeastern University, Boston, MA, Nov. 2-4, 2009.
9. **Michelle Chen**, "Physics Meets Biology: Carbon Nanotube Chemical and Biological Sensors," at Interdisciplinary Seminars at Simmons College, Boston, MA, Oct. 18 2008.
10. **Michelle Chen**, "Functionalized Carbon Nanotubes for Chemical and Biological Detection," at Interdisciplinary Seminar at Simmons College, Boston, MA, Dec. 3, 2007.

SELECTED CONFERENCE PRESENTATIONS

(***** indicates undergraduate student co-authors under my mentorship)

1. Michelle Chen, "Afterwaves of COVID in Teaching Introductory Physics" *AAPT Meeting*, Boston, MA, (July 8, 2024)
2. Jacob Groh, Levi McClurg, Jaehyun Lee, **Michelle Chen**, and Howard H. Chen, "Structure of PLGA and Its Cardio-Protective Effect: Atomic Simulation and Machine Learning," Oral Presentation at APS Meeting, Online, March 20, 2023.
3. Vincent Battistini Olivieri, Lan Wei, **Michelle Chen**, and Howard H. Chen, "Nucleic Acid Functionalization of Graphene and the Impact on Stem Cell Maturation," Poster Presentation at APS Meeting, Boston, MA, Mar. 4 – 8, 2019.
4. Kathrine Quiros, Madison Berger, Alex Koch, Michael Lambert, Estifanos Mekuria, Daniel Solar, Lan Wei, Howard H. Chen, and **Michelle Chen**, "Graphene Synthesis, Transfer,

Characterization, and Application," Poster Presentation at APS Meeting, Los Angeles, CA, Mar. 5 – 9, 2018.

5. Kathrine Quiros, Michael Lambert, Daniel Solar, and **Michelle Chen**, "Graphene Synthesis Using Chemical Vapor Deposition and Characterization with Scanning Electron Microscopy," Poster Presentation at Conferences for Undergraduate Women in Physics, Los Angeles, CA, Jan. 13 – 15, 2017.
6. Michael Lambert, Daniel Solar, Kathrine Quiros, and **Michelle Chen**, "Graphene Synthesis Using Chemical Vapor Deposition and Characterization with Scanning Electron Microscopy," Poster Presentation at Southern California Conferences for Undergraduate Research, Riverside, CA, Nov. 12, 2016.
7. **Michelle Chen**, "Interdisciplinary Nanomaterials Research for Undergraduate Students," Poster Presentation at American Association of Physics Teachers Winter Meeting, San Diego, CA, Jan. 3 – 6, 2015.
8. **Michelle Chen**, "Imaging of Carbon Nanotubes in Cells," Poster Presentation at Gordon Research Conference on Physics Research & Education: The Complex Intersection of Biology and Physics, Mount Holyoke College, South Hadley, MA, Jun. 8 – 13, 2014.
9. **Michelle Chen**, Melanie Broman*, Claire Mathews*, and Eric McPherson*, "Real-time Observation of Cell and Carbon Nanotube Interactions," Poster Presentation at *APS Meeting*, Denver, CO, Mar. 3 – 7, 2014.
10. Hannah M. Ponek*, **Michelle Chen**, and Eric C. Frey, "Quantify the Uptake of Samarium-153 for Targeting Tumors," Poster Presentation at *APS Meeting*, Baltimore, MD, Mar. 18 – 22, 2013.
11. Team-Based Learning Collaborative, San Diego, CA, Feb. 28 – Mar. 2, 2013.
12. Y. Liu, **M. Chen**, M.L. Wang, and M.R. Dokmeci, "DNA Decorated SWNT Sensors: The Effect of DNA Sequence Length," Oral Presentation at MRS Meeting, San Francisco, CA, Apr. 9-13, 2012.
13. H.H. Chen, B. Baer*, C.S. Evans*, H.M. Ponek*, and **M. Chen**, "Effect of Single-walled Carbon Nanotubes Entry into Mammalian Cells," Poster Presentation at MRS Meeting, San Francisco, CA, Apr. 9-13, 2012.
14. H.H. Chen, J.A. Lucas*, H.M. Ponek*, C.S. Evans*, B. Baer*, S.Y. Choung, and **M. Chen**, "Biocompatibility of Carbon Nanotubes in Mammalian Cells: An Imaging Based Approach," Poster Presentation at *APS Meeting*, Boston, MA, Feb. 27 – Mar. 2, 2012.
15. H.H. Chen, J.A. Lucas*, and **M. Chen**, "Effect of Carbon Nanotubes on Chinese Hamster Ovarian Cells," Oral Presentation at Nanotech Conference and Expo, Boston, MA, Jun. 13-16, 2011.
16. Y. Liu, **M. Chen**, M. Mohebbi, M.L. Wang, M.R. Dokmeci, "The Effect of Sequence Length on DNA Decorated CNT Gas Sensors," Oral Presentation at 6th International Solid-State Sensors, Actuators and Microsystemss Conference (Transducers), Beijing, China, June 5-9, 2011.
17. Y. Liu, **M. Chen**, M. Mohebbi, M.L. Wang, M.R. Dokmeci, "Sequence Characteristics of RNA Oligomers on SWNT Devices," Oral Presentation at 6th International Solid-State Sensors, Actuators and Microsystemss Conference (Transducers), Beijing, China, June 5-9, 2011.
18. Nicole Kawamoto*, Matthew Berck, Daniel Singer, **Michelle Chen**, Michael Kaplan, Zhengtang Luo, A.T. Charlie Johnson, and Michael Kaplan, "Synthesis of Large Area

Graphene Film by Chemical Vapor Deposition," Oral Presentation at 7th Annual Simmons College Undergraduate Conference, Boson, MA, Apr. 29, 2011.

19. Nicole Kawamoto*, Matthew Berck, Daniel Singer, **Michelle Chen**, Zhengtang Luo, and A.T. Charlie Johnson, "Synthesis of Large Area Graphene Films by Chemical Vapor Deposition," Poster Presentation at 241th American Chemical Society National Meeting, Anaheim, CA, Mar. 27-31, 2011.
20. NSF Day, University of San Diego, San Diego, CA, Jan. 19, 2011.
21. C.-L. Chen, C.-F. Yang, V. Agarwal, S. Sonkusale, A. Busnaina, **M. Chen**, and M.R. Dokmeci, "Ss-DNA Decorated SWNT Sensors Integrated on CMOS Circuitry," Oral Presentation at MRS Meeting, Boston, MA, Nov. 28 – Dec. 3, 2010.
22. C.-L. Chen, V. Agarwar, S. Sonkusale, **M. Chen**, and M.R. Dokmeci, "Ss-DNA Decorated SWNT Gas Sensors Integrated on CMOS Circuitry," Oral Presentation at 9th IEEE Sensors 2010 Conference, Big Island, HI, Nov. 1-4, 2010.
23. Nicole Kawamoto*, Matthew Berck, Daniel Singer, **Michelle Chen**, Zhengtang Luo, and A.T. Charlie Johnson, "Synthesis of Large Area Graphene Films by Chemical Vapor Deposition," Poster Presentation at 240th American Chemical Society National Meeting, Boston, MA, Aug.22-26, 2010.
24. **M. Chen**, S.S. Datta, S.M. Khamis, J.E. Fischer, and A.T. Johnson, "RNA Functionalized Carbon Nanotube for Chemical Sensing," Oral Presentation at Nanotech 2010 Conference and Expo., Anaheim, CA, Jun. 21-24, 2010.
25. C.-L Chen, Y. Liu, V. Agarwal, S. Sonkusale, A. Busnaina, **M. Chen**, and M.R. Dokmeci, "Single-Walled Carbon Nanotube Gas Sensors Integrated on Complementary Metal Oxide Semiconductor Circuitry," Oral Presentation at Nanotech 2010 Conference and Expo., Anaheim, CA, Jun. 21-24, 2010.
26. Gordon Research Conference: Physics Research & Education, Mount Holyoke College, South Hadley, MA, Jun. 6-11, 2010.
27. N. Kawamoto*, M. Berck, D. Singer, **M. Chen**, Z. Luo, and A.T. Johnson, "Synthesis of Large Area Graphene Films by Chemical Vapor Deposition," Poster Presentation at 6th Annual Simmons College Undergraduate Conference, Boson, MA, Apr. 23, 2010.
28. **M. Chen**, A. Ahmed*, M. Black*, N. Kawamoto*, J.A. Lucas*, A. Pagala*, T. Pham*, S. Stankiewicz*, and H.H. Chen, "Effect of Carbon Nanotubes on Mammalian Cells," Oral Presentation at APS Meeting, Portland, OR, Mar. 15-19, 2010.
29. C.-L. Chen, C.-F. Yang, V. Agarwal, S. Sonkusale, A. Busnaina, **M. Chen**, and M.R. Dokmeci, "Single-walled Carbon Nanotube Chemical Sensors Integrated onto CMOS Circuitry for Environmental Monitoring," Oral Presentation at MRS Meeting, Boston, MA, Nov. 29 – Dec. 4, 2009.
30. C.-L. Chen, C.-F. Yang, V. Agarwal, S. Sonkusale, A. Busnaina, **M. Chen**, and M.R. Dokmeci, "Ss-DNA-Decorated Single-Walled Carbon Nanotubes Integrated onto CMOS Circuitry for Gas Sensor," Oral Presentation at 5th International Conference on Sensors, Actuators and Microsystemss (Transducers), Denver, CO, Jun. 21-25, 2009.
31. **Michelle Chen**, "Functionalized Carbon Nanotube Sensors for Chemical and Biological Detection," Oral Presentation at Nanomanufacturing Summit, Boston, MA, May 27-29, 2009.
32. N. Abdul-Rauf*, R. Brady*, S. Intriago*, N. Kawamoto*, J.A. Lucas*, A. Pagala*, T. Pham*, B. Yang*, and **M. Chen**, "Carbon Nanotubes: The Big Picture," Poster Presentation at 5th Annual Simmons College Undergraduate Conference, Boson, MA, Apr. 24, 2009.

33. **Michelle Chen**, "Carbon Nanotube Chemical and Biological sensors," Oral Presentation at National Nano Engineering Conference, Boston, MA, Nov. 12-13 2008.
34. College of the Fenway Teaching and Learning Conference, Boston, MA, Oct. 24, 2008.
35. S.M. Khamis, **M. Chen**, and A.T. Johnson, "Probing Vapor Phase Analytes with Single Walled Carbon Nanotube Biopolymer Hybrid Devices," Oral Presentation at APS Meeting, New Orleans, LA, Mar. 10-14, 2008.
36. **M. Chen**, S.M. Khamis, S. Datta, and A.T. Johnson, Y.-B. Zhang, M. Kanungo, A.J. Ho, P. Freimutha, D. van der Lelie, B. Panessa-Warren, J.A. Misewich, and S.S. Wong, "Detection of Viral Proteins using Human Receptor Functionalized Carbon Nanotubes," Oral Presentation at MRS Meeting, Boston, MA, Nov. 26-30, 2007.
37. **M. Chen**, S.M. Khamis, S. Datta, and A.T. Johnson, Y.-B. Zhang, M. Kanungo, A.J. Ho, P. Freimutha, D. van der Lelie, B. Panessa-Warren, J.A. Misewich, and S.S. Wong, "Electrical Detection of Protein Binding using Carbon Nanotubes," Oral Presentation at APS Meeting, Denver, CO, Mar. 5-9, 2007.
38. **M. Chen**, S.M. Khamis, R. Johnson, C. Staii, M.L. Klein, J.E. Fischer, and A.T. Johnson, "Investigation of DNA-decorated Carbon Nanotube Chemical Sensors," Oral Presentation at MRS Meeting, Boston, MA, Nov. 17 – Dec. 1, 2006.
39. **M. Chen**, C. Staii, S. Khamis, J.E. Fischer, and A.T. Johnson, "DNA Functionalized Carbon Nanotubes for Chemical Sensing," Oral Presentation at APS Meeting, Baltimore, MD, Mar. 17-21, 2006.
40. **M. Chen**, C. Staii, S. Khamis, A.T. Johnson, and A.T. Gelperin, "DNA-decorated Carbon Nanotubes for Chemical Sensing," Poster Presentation at Gordon Research Conference, New London, CT, Jul. 2005.
41. **M. Chen**, C. Staii, A. Gelperin, and A. T. Johnson, "Single Stranded DNA-decorated Carbon Nanotube Transistors for Chemical Sensing," Oral Presentation at MRS Meeting, Boston, MA, Nov. 18 – Dec. 2, 2005.
42. **M. Chen**, C. Guthy, J. Vavro, J.E. Fischer, S. Badaire, C. Zakri, P. Poulin, V. Pichot, and P. Launois, "Characterization of Single-walled Carbon Nanotube Fibers and Correlation with Stretch Alignment," Oral Presentation at MRS Meeting, Boston, MA, Nov. 18 – Dec. 2, 2004.
43. **M. Chen**, B. Zhang, and W. Kang, "Stable and Metastable Quantized Hall Plateaus in (TMTSF)2PF6," Oral Presentation at APS Meeting, Minneapolis, MN, Mar. 20 – 24, 2000.
44. B. Zhang, **M. Chen**, and W. Kang, "Transport Detection of NMR in the Fractional Quantum Hall Regime under Pressure," Oral Presentation at APS Meeting, Minneapolis, MN, Mar. 20-24, 2000.

HONORS & AWARDS

- Sabbatical, PLNU, 2017, 2025.
- Gordon Research Conference Travel Grant, 2014.
- Faculty Spotlight, PLNU, 2013.
- President Fund for Faculty Excellence, Simmons College, 2010.
- Faculty Development and Travel Grant, NISE Network, 2009.
- 3rd Place, Poster Competition, Society of Women Engineers, Univ. of Pennsylvania, 2007.
- Best Presentation Award, Graduate Research Symposium, Univ. of Pennsylvania, 2005.
- Graduate Research Fellowship, Univ. of Pennsylvania, 2002 – 2007.

- Full Tuition Merit Scholarship, Univ. of Chicago, 1999 – 2002.
- NSF CIC-WISE Travel Grant, Univ. of Chicago, 2000.
- Richter Fund for Honors Undergraduate Research, Univ. of Chicago, 1998 – 1999.

UNIVERSITY COMMITTEES

- Chair, Agenda Committee, PLNU, 2024 – 2027.
- Rank and Tenure Committee, PLNU, 2018 – 2023. Chair 2021 – 2022.
- Faculty Resources Committee, PLNU, 2016 – 2017.
- Graduate and Extended Studies Committee, PLNU, 2014 – 2015.
- Enrollment Management Committee, PLNU, 2013 – 2014.
- Structural Governance Committee, PLNU, 2012 – 2013.
- Faculty Committee on Diversity, PLNU, 2011 – 2012.
- Honor Board Committee, Simmons College, 2009 – 2010.
- Strategic Planning Team (Science), Simmons College, 2009.
- Strategic Planning Team (Faculty Research), Simmons College, 2009.
- Strategic Planning Team (Great Place to Work), Simmons College, 2009.

SERVICE TO COMMUNITY

- Moderator, American Association of Physics Techers Meeting, Boston, MA, July 6-10, 2024
- Referee, The Physics Teacher, 2023 – present.
- Proctor, San Diego Regional Science Olympiad, San Diego Miramar College, March 4, 2023.
- Coach, Math League, Solana Pacific Elementary School, 2025.
- Coach, Science Olympiad, Solana Pacific Elementary School, 2024 – 2025.
- Coach, Robotics Club, Solana Pacific Elementary School, 2022 – present.
- Leader and Volunteer, Young Scientist Club, Carmel Creek Elementary School, April 2020 and Fall 2022.
- Volunteer, Solana Pacific Elementary School, 2022 – present.
- Volunteer, Carmel Creek Elementary School, 2018 – 2024.
- Volunteer, San Diego Chinese Academy, 2019 – present.
- Volunteer, Mainly Mozart Youth Orchestra, 2023 – present.
- Sunday School Teacher, Taiwanese Lutheran Church of San Diego, 2017 – present.
- Moderator, Southern California Conferences for Undergraduate Research, 2016.
- Referee, Microelectronic Engineering, 2015 – present.
- Proposal Reviewer, Center for Functional Nanomaterials, Brookhaven National Laboratories, 2013 – present.
- Referee, Proceedings of Materials Research Society, 2005 – present.
- Volunteer, Girls Day Out, SPAWAR – PLNU, 2011 – 2012.
- Director and Organizer, NanoDay, Simmons College, 2009 – 2010.
- Volunteer, Science Engineering Technology (S.E.T.) in the City, Boston, 2009 – 2010.

- Student Organizer, NanoDay, Univ. of Pennsylvania, 2005 – 2006.
- Counselor, Young Scholars Program, Univ. of Chicago, 1997 – 1998.

PROFESSIONAL MEMBERSHIP

- American Physical Society, 2000 – present.
- Materials Research Society, 2004 – present.
- Nanoscale Informal Science Education (NISE Network), 2008 – present.
- American Association of Physics Teachers, 2009 – present.
- Text and Academic Authors Association, 2012 – present.
- American Chemical Society, 2008 – 2009.